Thomas (T. Gaillard.)

A PAPER READ BEFORE THE YONKERS MEDICAL ASSOCIATION.

GASTRO-ELYTROTOMY;

A SUBSTITUTE FOR THE CÆSAREAN SECTION.

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BY

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Honorary Member of the Association.

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GASTRO-ELYTROTOMY;*

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By T. GAILLARD THOMAS, M.D.,
HONORARY MEMBER OF THE ASSOCIATION.

The history of the operation of the Cæsarean section extends back into the earliest records of the obstetric art; so far, indeed, that the period of its first adoption cannot be with certainty ascertained. Like all other history which must be sought for in the earliest literature of obsolete civilizations, its infancy is enshrouded in much of that mystery with which the ancients habitually invested rites and customs. Leaving out of consideration all concerning it which is purely traditional, we may accept the facts that it was practised among the Jews, as conclusively shown by Dr.

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Mansfield's researches in the Talmud; that it was a recognized operation during the Greek civilization; and that during the Roman it received the name under which it is now known to us. Dr. Mansfield proves by quotations from the Nidda, an appendix to the Talmud, and from the Talmud itself, that among the ancient Israelites it was performed upon the living woman. Grecian and Roman records of the operation which are preserved to us, relate only to its performance after the death of the mother and in the interest of the child alone. The first case in which it was resorted to in later times for removal of a child from the body of a living woman, which can be regarded as really authentic, dates back only to about the period of the discovery of this country, 1491.* Subsequent to this time it again became a recognized operation upon living women, and in 1581 Rousset published his celebrated essay upon it.

The ancients operated directly through the abdominal walls, choosing generally, from the location of the liver, the left side, and making straight, slightly oblique, or crescentic incisions outside of the edge of the rectus abdominis muscle. As time passed on, various modifications of these methods were practised. The primary incision was made directly over the linea alba, as is generally done at present; a transverse incision was made, extending from the rectus abdominis muscle for five inches towards the spinal column, and passing below the third false rib; an oblique incision was extended from the horizontal ramus of the pubis

* Playfair, Obstet. Operations.

of one side through the median line, and terminating at the extremity of the last false rib of the opposite side; and Kilian tells us of the incision of Zang, which extended from the middle of the median line to one and a half inches from the middle of the horizontal ramus of the pubis.

Not only were various methods proposed for opening through the abdominal walls, peritonæum, and uterus; others were practised with the intention of avoiding the section of the two latter of these tissues.

In 1768, Sigault formally proposed the operation of section of the pubic symphysis, for the purpose of giving increased space to the cavity of the true pelvis. At the time when this procedure was proposed Sigault was merely a student of medicine, and the Academy of Surgery to which his memoir was presented almost refused to entertain it. Some of the most eminent members of that body expressed the view that it was the undigested idea of a young and inexperienced mind. But Sigault, nothing daunted, sustained his proposition in an inaugural thesis presented at Angers in 1773, and in 1777, nine years after its conception, absolutely resorted to the operation upon a living woman. His patient recovered after having been delivered of a living child.

And now the tide of opinion turned strongly in favor of the persevering innovator. His name was lauded as that of one who had accomplished a great result for humanity, and the faculty of medicine of Paris had a medal struck off in his honor. In a short time, however, a strong opposition sprang up against

the procedure, and at our day, although a short historical sketch of symphysiotomy is usually given in works on midwifery, no one ever resorts to it at the bedside.

For the same end—that is, to avoid section of the peritonæum and uterus—in 1820 Ritgen of Germany proposed an operation which he styled gastro-elytrotomy. Unlike the now obsolete operation of Sigault, this procedure is rarely mentioned in works on obstetrics, and with the exception of Kilian, Dewees, who mentions Physick's modification of it, and Velpeau, who quotes Kilian's description, no systematic writer, so far as my knowledge extends, describes it. It is my intention this evening to bring this operation before the notice of the Society, and by this means to ask of the profession whether it has not been too hastily abandoned, and whether a resort to it might not improve the statistics of the operation of gastrotomy applied to the parturient woman.

The operation of Gastro-elytrotomy, as practised by Ritgen, consisted in the four following steps: First, an incision extending from the spine of the pubis to the anterior superior spinous process of the ileum was made through the abdominal walls. Second, the loosely-fitting peritonæum was lifted by the fingers until the vagino-uterine junction was reached. Third, this was cut through. Fourth, delivery was accomplished through the opening thus made.

The idea of thus opening the vagina instead of the uterus was not original with Ritgen, for in 1806 Kilian*

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* Op. Geburtshülfe, vol. ii., p. 715.

tells us that Jörg proposed the same procedure, with the exception of that part of it intended for the avoidance of the peritonæum. It is a curious fact, that the idea seems to have occurred almost simultaneously to two other obstetricians in different countries at the time when Ritgen conceived it. In 1822, our countryman Physick, of Philadelphia, proposed it to his friend Dr. Horner,* and in 1823, the thesis of A. Baudelocque,† of France, appeared upon it.

The dangers of the Cæsarean section, however much we may improve in our knowledge of abdominal surgery, must ever remain so great as to render this, *par excellence*, the capital operation of the lying-in room. That the statistics which have been gathered in evidence of the mortality attending it are entirely invalidated by the fact that it has been too often delayed, in the vain hope that the efforts of nature or some less dangerous operation might bring about a favorable issue, no one can deny. I am perfectly willing to admit that many cases in which craniotomy has been resorted to in the past would have been more appropriately treated by this operation, and I as firmly believe that in the future the Cæsarean section will be more frequently resorted to, and with better results, for the reason that progressive obstetricians appreciate and admit these facts. In pressing the claims of gastro-elytrotomy upon the attention of the profession, then, I do not desire to be understood as inveighing against the Cæ-

* Dewees on Midwifery, p. 507.

† Velpeau: Traité de l'Art des Accouchements. Vol. ii., p. 463.

sarean section, but merely suggesting that some of the dangers of that operation may by this one be avoided.

I had for a long time been waiting for an opportunity of essaying the operation of gastro-elytrotomy, and had twice, in company with Dr. H. F. Walker, experimented upon the non-pregnant cadaver before I discovered that the idea was an old one, and that what I supposed had originated with me, had years ago been tested and thrown aside. After I had gained this knowledge, however, I was not the less anxious to make trial of a procedure which appeared to me to promise a great deal, and in the month of February, 1870, an opportunity was presented me, through the kindness of Dr. Cushman, of New York, of trying the experiment upon the cadaver of a pregnant woman.

Case I.—*Gastro-elytrotomy performed on the Cadaver.*

A young Irish woman, a multipara, aged about 30 years, had, in the latter part of the ninth month of pregnancy, as nearly as could be ascertained, died of uræmic convulsions. Dr. Cushman at once notified me, and about eight hours after death I proceeded to remove the child by gastro-elytrotomy, in presence of Drs. H. B. Sands, James L. Brown, J. B. Reynolds, Cushman, and Morton.

The body being laid upon a table, I passed my hand up the vagina, and in about fifteen minutes dilated the cervix uteri so that my hand could pass in. The membranes were unbroken. Withdrawing the hand from the vagina, I then made an incision with a bis-

toury through the abdominal walls on the right side, extending from the spine of the pubis to the anterior superior spinous process of the ileum, and sweeping upwards directly above the ligament of Poupart. Having cut through the muscles, I rapidly and easily lifted up the peritonæum with my fingers, and soon came in contact with the vagina at its junction with the cervix. Dr. Brown then passed a large steel sound into the vagina, so as to make it rest against the cervix, and by this lifted the vagina into the opening in the abdominal walls. I then cut down upon the sound, enlarged the opening made by my fingers, and the sound was withdrawn. Fixing an obstetric blunt hook in the cervix, it was seized by an assistant, who lifted that part into the iliac fossa, while another depressed the fundus uteri in an opposite direction. Then passing my right hand into the open cervix, I easily caught a foot, turned the child, and delivered.

The operation was performed rapidly and without difficulty or detention. It was the remark of all present, that had the child been alive at the commencement of the operation, no influence was developed during its performance which could have injured it.

Case II.—*Gastro-elytrotomy performed on a living woman.—A living child delivered.*

Within a month from the time of the experimental operation just recorded, I was called in great haste by Dr. T. C. Finnell to a case which he was attending with Dr. Richardson, under the following circumstances.

The patient, a multipara aged about 40 years, and at the end of the 7th month of utero-gestation, had been suffering from pneumonia for a week or ten days, and was now *in articulo mortis.* Dr. Finnell intimated to me that he could wait only a short time for me, for, as the woman was fast becoming comatose, he deemed it his duty to perform the Cæsarean section in the interest of the child, which might prove viable. I hastened to the patient's house, and found everything in accordance with what has been stated above: the patient, almost entirely pulseless, was cyanosed, breathing with a loud laryngeal rattle, and almost entirely unconscious. A rapid consultation was held between Drs. Finnell, Richardson, Jas. L. Brown, Walker, Lynch, and myself, and it was decided that the child should be at once removed by abdominal section.

The patient being placed upon a table, anæsthesia was produced, so as to quiet her restlessness and jactitation, with a few inhalations of ether. I then passed my hand up the vagina and dilated the cervix slowly and cautiously, so that at a three-quarter distention no injury was done to its tissue. With a bistoury I then cut through the abdominal muscles, the incision being carried from the spine of the pubis to the anterior superior spinous process of the ileum. The lips of the wound were now separated, and by two fingers the peritonæum was lifted with great readiness, so that the vagino-uterine junction was reached. The vagina was now lifted by a steel sound passed within it, and cut, and the opening thus made was enlarged by the fingers. The cervix was then lifted into the right iliac fossa by

the blunt hook, while the fundus was depressed in an opposite direction. I then passed my right hand into the iliac fossa and introduced two fingers into the uterus, while the left hand, placed on the outer surface of the uterus, depressed the pelvic extremity of the fœtal ovoid. The knee was readily seized, and delivery easily and rapidly accomplished. The child was born alive, but was a badly-developed, harelipped, and, as I before stated, premature infant. It lived about one hour, during which time the rite of baptism was administered to it. The mother, the wound in whose abdomen was closed by interrupted suture, died about the same time as the child.

In completing the recital of this case, I need hardly point out the fact that the fatal issue for mother and child which occurred should not in the slightest degree be imputed to any inherent imperfection of the operation itself. It was unquestionably due to these two circumstances which characterized this individual case: first, that the woman was moribund when the operation was undertaken; and, second, that the child was premature, undeveloped, and probably depreciated in strength by the toxæmia which had for days affected its mother in consequence of pneumonia. I think that I am correct in saying that all the gentlemen present agree in the belief that nothing connected with its delivery could in any way have injured the child's prospects for life. The liquor amnii was unevacuated up to the moment when version was practised, and not an instant's delay, or the expenditure of any, even the slightest, force was developed as a possible cause of death. The child died, as we so often see pre-

mature children die, of want of cerebro-spinal and ganglionic nerve-power to maintain the functions of life in its new relations.

Before closing this essay, there are several points connected with its subject to which I would direct particular attention, and which I shall state in a series of propositions. In doing this I desire especially to avoid the appearance of indulging in special pleading, urging with the enthusiasm of too warm an advocate, or professing an undue degree of confidence in a procedure about which I know so little, and in the practice of which I have so meagre an experience to offer. It may be that with more experience I myself may cast it aside as my predecessors have done, and that I am now engaging your attention in the consideration of a subject which will not prove worthy of it.

1st Proposition.—The first point which I would submit is this: that the operation has never been fully and fairly tested, and that it has been cast aside without proper investigation.

So far as my researches have enabled me to discover, this operation has attracted the attention of but four obstetricians: Jörg in 1806, Ritgen in 1820, Physick in 1822, and A. Baudelocque in 1823. Kilian, in speaking of Jörg's conception of the operation, says that he merely suggested it; and even if he had performed it, his results would not have been admitted in the present appreciation of the operation, since he did not propose avoiding the peritonæum, a prominent feature of Ritgen's method. The same writer alludes to one operation by Ritgen which ended fatally, while

Velpeau, in 1835, alluding to Ritgen's procedure, says: "However, it exists only in theory, and no one has thus far practised it on the living woman." In speaking of Baudelocque's method, Velpeau says, after alluding to a case in which he (Baudelocque) tried elytrotomy and abandoned it for the Cæsarean section: "A single case, I admit, does not authorize us to draw positive conclusions, but this, the only one demonstrated upon the living woman, gives great force to the theoretical objections already mentioned, against the idea of the author." Dr. Horner, who reports Physick's plan to Dewees, says, in concluding his letter, "I have thought that even a proposition not yet confirmed by actual experience of its success would not be an unacceptable addition," &c.

So far as I have been able to learn, then, this operation has been performed but once before the period at which I repeated it. Ritgen was the operator; Baudelocque, according to Velpeau, merely essayed it, and probably losing confidence in an untried procedure,—for I cannot, with my experience, see how failure in the removal of the child was possible,—he at once resorted to the better known and more legitimate operation of the Cæsarean section.

It is quite possible that I may be mistaken in the belief that but one attempt had been made before mine, for a busy life has prevented my giving as much time as I could wish to searching the literature of the subject, but my impression is that I am correct. If I am so, I need say nothing further in support of my proposition, "that the operation has never been fully

and fairly tested, and that it has been cast aside without proper investigation." This will be readily admitted unless an examination into the dangers attendant upon it proves them to be greater than those resulting from the Cæsarean section. That question will be considered in connection with my second proposition.

2d Proposition.—The dangers of gastro-elytrotomy, although great, are much less grave than those of the Cæsarean section.

The chief dangers of the Cæsarean section for the woman may be thus enumerated:—

1st. Peritonitis.
2d. Metritis.
3d. Hemorrhage.
4th. Shock.
5th. Incarceration of intestines.
6th. Septicæmia.

For the child the dangers, when the operation is not too long delayed, are not great, and may be enumerated as follows:—

1st. Apnœa from cutting through placenta.
2d. Retention of head clasped by uterine wound.

The operation of gastro-elytrotomy avoids entirely for the woman the 1st, 2d, and 5th of these dangers, and in very great degree diminishes the probability of the 4th and 6th. It may be followed by the 3d accident, and in place of peritonitis may result in cellulitis. As the peritonæum and uterus are not cut, the great risks of peritonitis, metritis, and internal hernia are avoided. The peritoneal cavity being unopened, there

is little danger of that sudden nervous prostration which we call shock; and as the wound admits of free drainage and thorough irrigation, the probability of the absorption of septic materials is very much lessened.

Thus, upon paper, we can almost make it appear that gastro-elytrotomy is a safe procedure. But this is far from being the case, nor do I desire to make it appear so. All that I am striving to prove is, that it *probably* has fewer and less grave dangers attendant upon it than the Cæsarean section has. What is by comparison free from danger, may be in itself decidedly hazardous.

The great dangers of the operation are unquestionably cellulitis and hemorrhage, while more unlikely ones may appear in the forms of shock and septicæmia.

How great is the danger of hemorrhage? This question I cannot answer. In the case here reported, not over three or four ounces of blood were lost, but the woman was moribund, and no deduction under these circumstances would be valid. There is a congeries of large tortuous arteries around the vagina which would unquestionably be severed; but by means of ligatures or the actual cautery, carried by a speculum through the abdominal wound, and the persulphate of iron, carried by the same means to the wound, through the vagina, hemorrhage could probably be controlled.

For the child the dangers of elytrotomy are unquestionably much slighter than those which attend Cæsarean section. From my experience I must say that I regard them as *not so great* as those which attend an ordinary breech delivery. To make this comparison

just, however, I must remind my hearers that I do not regard the fœtal dangers from Cæsarean section as great, in so far as concerns the operation itself, and freely admit that the mortality to children thus delivered is due almost entirely to delay in interference.

3d Proposition. — The third and last proposition which I shall make and discuss is this: the operation is exceedingly simple, and may be performed with rapidity and certainty.

To one who has never attempted it, gastro-elytrotomy may appear a procedure upon which few practitioners would venture. It is, however, almost as simple as the Cæsarean section, which has so often been performed by men who had no surgical acquirements. Let us analyze its steps. Incision through the abdominal muscles is as simple as when performed for Cæsarean section. Lifting of the peritonæum is perfectly easy, and when the vagina is made to protrude into the iliac opening by means of a sound passed into it, there can be no difficulty in cutting down on the point of the sound. After this, delivery by version is not as difficult as when performed per vias naturales.

No parallel should be drawn between the lifting of the peritonæum of the non-pregnant and pregnant subject. In the latter it is ample and movable to a degree which is entirely different from what obtains in the former.

I will trespass only a few minutes longer upon the patience of the Society in detailing the consecutive steps which I should advise, from the experience which I have had in this operation.

1st. The operator should be provided with a pocket-case of instruments, a blunt hook, cautery irons, ether, persulphate of iron, and Barnes' dilators.

2d. The patient, being anæsthetized, should be placed on a firm table, and the os fully dilated by Barnes' dilators.

3d. The abdominal wound should be made, the peritonæum lifted, the vagina opened, and the child delivered, by version if the head present, by extraction if the breech do so.

4th. The iliac fossa should be cleansed by a stream of tepid water, introduced through the abdominal wound and escaping through the vagina; and if hemorrhage exist, ligatures should be applied, if possible through the abdominal wound, to the bleeding vessels. Should this be impossible, a metallic vaginal speculum should be introduced through the abdominal wound to the bleeding spot, and the actual cautery carefully applied. Should this fail, the abdominal wound being closed by suture, the uterus should be excited to firm contraction, the speculum introduced through the vagina, and a small sponge slightly saturated with solution of persulphate of iron placed in contact with the wound. Should even this fail, I should not hesitate to tampon the vagina, guarding against concealed hemorrhage by keeping the uterus in condition of persistent contraction.

5th. Should no undue hemorrhage occur, I should have the vagina cautiously syringed out with a very weak solution of carbolic acid, once in every twelve hours.

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